



| Year   | 3 | Topic | Rocks |
|--|---|-------|-------|
| <ul style="list-style-type: none"> <li>• Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</li> <li>• Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> <li>• Recognise that soils are made from rocks and organic matter.</li> </ul> |   |       |       |

| Prior learning  | Future learning  |
|---|--|
| <ul style="list-style-type: none"> <li>• Distinguish between an object and the material from which it is made. (Y1 - Everyday materials)</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)</li> <li>• Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials)</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)</li> <li>• Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)</li> </ul> | <ul style="list-style-type: none"> <li>• Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. (Y6 - Evolution and inheritance)</li> <li>• The composition of the Earth. (KS3)</li> <li>• The structure of the Earth. (KS3)</li> <li>• The rock cycle and the formation of igneous, sedimentary and metamorphic rocks. (KS3)</li> </ul> |

**WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE**

**Show understanding of a concept using scientific vocabulary correctly**

| Key learning  | Possible evidence  |
|---|--|
| <p>Rock is a naturally occurring material. There are different types of rock e.g. sandstone, limestone, slate etc. which have different properties. Rocks can be hard or soft. They have different sizes of grain or crystal. They may absorb water. Rocks can be different shapes and sizes (stones, pebbles, boulders). Soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). The type of rock, size of rock pieces and the amount of organic matter affect the property of the soil.</p> <p>Some rocks contain fossils. Fossils were formed millions of years ago. When plants and animals died, they fell to the seabed. They became covered and squashed by other material. Over time the dissolving animal and plant matter is replaced by minerals from the water.</p> | <ul style="list-style-type: none"> <li>• Can name some types of rock and give physical features of each</li> <li>• Can explain how a fossil is formed</li> <li>• Can explain that soils are made from rocks and also contain living/dead matter</li> </ul> |

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|---|--|
| <b>Key vocabulary</b>   |  |
| Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil   |  |
| <b>Common misconceptions</b>  |  |
| <p>Some children may think:</p> <ul style="list-style-type: none"> <li>• rocks are all hard in nature</li> <li>• rock-like, man-made substances such as concrete or brick are rocks</li> <li>• materials which have been polished or shaped for use, such as a granite worktop, are not rocks as they are no longer 'natural'</li> <li>• certain found artefacts, like old bits of pottery or coins, are fossils • a fossil is an actual piece of the extinct animal or plant</li> <li>• soil and compost are the same thing.</li> </ul>  |  |
| <b>Apply knowledge in familiar related contexts, including a range of enquiries</b>   |  |
| <b>Activities</b>   | <b>Possible evidence</b>   |
| <ul style="list-style-type: none"> <li>• Observe rocks closely.</li> <li>• Classify rocks in a range of ways, based on their appearance.</li> <li>• Devise a test to investigate the hardness of a range of rocks.</li> <li>• Devise a test to investigate how much water different rocks absorb.</li> <li>• Observe how rocks change over time e.g. gravestones or old building.</li> <li>• Research using secondary sources how fossils are formed.</li> <li>• Observe soils closely.</li> <li>• Classify soils in a range of ways based on their appearance.</li> <li>• Devise a test to investigate the water retention of soils.</li> <li>• Observe how soil can be separated through sedimentation.</li> <li>• Research the work of Mary Anning.</li> </ul> | <ul style="list-style-type: none"> <li>• Can classify rocks in a range of different ways, using appropriate vocabulary</li> <li>• Can devise tests to explore the properties of rocks and use data to rank the rocks</li> <li>• Can link rocks changing over time with their properties e.g. soft rocks get worn away more easily</li> <li>• Can present in different ways their understanding of how fossils are formed e.g. in role play, comic strip, chronological report, stop-go animation etc.</li> <li>• Can identify plant/animal matter and rocks in samples of soil</li> <li>• Can devise a test to explore the water retention of soils</li> </ul> |